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Exhibit R-2, RDT&E Budget Item Justification: PB 2013 Army									DATE: February 2012		
APPROPRIATION/BUDGET ACTIVITY 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0607865A: Patriot Product Improvement							
COST (\$ in Millions)	FY 2011	FY 2012	FY 2013 Base	FY 2013 OCO	FY 2013 Total	FY 2014	FY 2015	FY 2016	FY 2017	Cost To Complete	Total Cost
Total Program Element	-	-	109.978	-	109.978	60.392	24.964	7.557	6.919	Continuing	Continuing
DV8: PATRIOT PRODUCT IMPROVEMENT	-	-	109.978	-	109.978	60.392	24.964	7.557	6.919	Continuing	Continuing

**Note**

Increase addresses Evolutionary Development Program (EDP) efforts for Patriot Product Improvement Program (PIP).

**A. Mission Description and Budget Item Justification**

Patriot is an advanced Surface-to-Air guided missile system with a high probability of kill capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simultaneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces. The Patriot Product Improvement Program provides for the upgrade of the Patriot System through individual materiel changes. The Patriot Product Improvement Program upgrades the Patriot system to address operational lessons learned, enhancements to joint force interoperability, and other system performance improvements to provide overmatch capability with the emerging threat. Efforts will be made to expedite Patriot materiel solutions (e.g. Radar Digital Processor, Communications Upgrades, Radars on the Net) to both enhance capability and facilitate integration into the IAMD architecture.

<b>B. Program Change Summary (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>
Previous President's Budget	-	-	-	-	-
Current President's Budget	-	-	109.978	-	109.978
Total Adjustments	-	-	109.978	-	109.978
• Congressional General Reductions	-	-			
• Congressional Directed Reductions	-	-			
• Congressional Rescissions	-	-			
• Congressional Adds	-	-			
• Congressional Directed Transfers	-	-			
• Reprogrammings	-	-			
• SBIR/STTR Transfer	-	-			
• Adjustments to Budget Years	-	-	109.978	-	109.978

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				<b>R-1 ITEM NOMENCLATURE</b> PE 0607865A: Patriot Product Improvement				<b>PROJECT</b> DV8: PATRIOT PRODUCT IMPROVEMENT			
<b>COST (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013 Base</b>	<b>FY 2013 OCO</b>	<b>FY 2013 Total</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
DV8: PATRIOT PRODUCT IMPROVEMENT	-	-	109.978	-	109.978	60.392	24.964	7.557	6.919	Continuing	Continuing
Quantity of RDT&E Articles											

**Note**  
This is not a new start - continues effort funded in PE 0203801A (Project 036).

**A. Mission Description and Budget Item Justification**  
Patriot is an advanced Surface-to-Air guided missile system with a high probability of kill capable of operation in the presence of Electronic Countermeasures (ECM) and able to conduct multiple simultaneous engagements against high performance air breathing targets and ballistic missiles likely to be encountered by US Forces. The Patriot Product Improvement Program provides for the upgrade of the Patriot System through individual materiel changes. These improvements focus on the evolving threat and will provide a more robust capability and the foundation upon which future improvements can more readily be incorporated with minimal hardware changes. Efforts will be made to expedite Patriot materiel solutions (e.g. Radar Digital Processor, Communications Upgrades, Radars on the Net) to both enhance capability and facilitate integration into the IAMD architecture.

<b>B. Accomplishments/Planned Programs (\$ in Millions)</b>	<b>FY 2011</b>	<b>FY 2012</b>	<b>FY 2013</b>
<b>Title:</b> Patriot Product Improvement <b>Description:</b> Software Improvement for Threat Evolution <b>FY 2013 Plans:</b> Continues Software Improvement for Threat Evolution. Radar Digital Processor continues development efforts to support US FY 2016 Fielding, providing the field with additional capability and growth potential to counter stressing threats. Increases address Evolutionary Development Program (EDP) efforts and Electronic Counter Measures (ECM).	-	-	109.978
<b>Accomplishments/Planned Programs Subtotals</b>	-	-	109.978

**C. Other Program Funding Summary (\$ in Millions)**  
N/A

**D. Acquisition Strategy**  
The design objective of the Patriot system was to provide a baseline system capable of modification to cope with continuing threat evolution. This program minimizes technological risks and provides a means of enhancing system capability through planned upgrades of deployed systems. The Patriot Product Improvement program upgrades the Patriot system to address operational lessons learned, enhancements to joint force interoperability and communications, and other system performance

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<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>	<b>R-1 ITEM NOMENCLATURE</b> PE 0607865A: <i>Patriot Product Improvement</i>	<b>PROJECT</b> DV8: <i>PATRIOT PRODUCT IMPROVEMENT</i>
<p>improvements to provide overmatch capability against the emerging threat. Upgrades are implemented through individual hardware and software materiel changes and fielded incrementally. This program encompasses several changes which will require the use of a variety of acquisition methods to develop, test, procure and field.</p> <p><b>E. Performance Metrics</b></p> <p>Performance metrics used in the preparation of this justification material may be found in the FY 2010 Army Performance Budget Justification Book, dated May 2010.</p>		

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2013 Army										DATE: February 2012			
APPROPRIATION/BUDGET ACTIVITY				R-1 ITEM NOMENCLATURE				PROJECT					
2040: Research, Development, Test & Evaluation, Army BA 7: Operational Systems Development				PE 0607865A: Patriot Product Improvement				DV8: PATRIOT PRODUCT IMPROVEMENT					
Management Services (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Government Program Management	Various	RSA:Various	-	-		0.538		-		0.538	Continuing	Continuing	0.000
U.S. Contracts	C/FFP	Intuitive Research and Technology Corp. (IRTC):Huntsville, AL	-	-		0.361		-		0.361	Continuing	Continuing	0.000
Subtotal			-	-		0.899		-		0.899			0.000
Product Development (\$ in Millions)				FY 2012		FY 2013 Base		FY 2013 OCO		FY 2013 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Software Improvement for Threat Evolution	Various	Multiple:Multiple	-	-		9.986		-		9.986	Continuing	Continuing	0.000
Radar Digital Processor	Various	Raytheon:Massachusetts	-	-		32.200		-		32.200	Continuing	Continuing	0.000
THAAD PATRIOT Interoperability	SS/FFP	Raytheon:Massachusetts	-	-		6.800		-		6.800	Continuing	Continuing	0.000
Advanced Electronic Counter Measures	SS/FFP	Raytheon:Massachusetts	-	-		16.000		-		16.000	Continuing	Continuing	0.000
Internet Protocol Commo Phase 1	SS/FFP	Raytheon:Massachusetts	-	-		3.181		-		3.181	0.000	3.181	0.000
Evolutionary Development Program (EDP)	SS/FFP	Raytheon:Massachusetts	-	-		35.700		-		35.700	Continuing	Continuing	0.000
Upper Tier Debris Mitigation (UTDM)	SS/FFP	Raytheon:Massachusetts	-	-		4.800		-		4.800	0.000	4.800	0.000
Subtotal			-	-		108.667		-		108.667			0.000

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<b>Test and Evaluation (\$ in Millions)</b>				<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>			
<b>Cost Category Item</b>	<b>Contract Method &amp; Type</b>	<b>Performing Activity &amp; Location</b>	<b>Total Prior Years Cost</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Award Date</b>	<b>Cost</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
RDEC and Other Govt Agencies	Various	RSA:Various	-	-		0.412		-		0.412	Continuing	Continuing	0.000
<b>Subtotal</b>			-	-		0.412		-		0.412			0.000

  

	<b>Total Prior Years Cost</b>	<b>FY 2012</b>		<b>FY 2013 Base</b>		<b>FY 2013 OCO</b>		<b>FY 2013 Total</b>	<b>Cost To Complete</b>	<b>Total Cost</b>	<b>Target Value of Contract</b>
<b>Project Cost Totals</b>	-	-		109.978		-		109.978			0.000

  

**Remarks**

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<b>Exhibit R-4, RDT&amp;E Schedule Profile:</b> PB 2013 Army			<b>DATE:</b> February 2012		
<b>APPROPRIATION/BUDGET ACTIVITY</b> 2040: <i>Research, Development, Test &amp; Evaluation, Army</i> BA 7: <i>Operational Systems Development</i>		<b>R-1 ITEM NOMENCLATURE</b> PE 0607865A: <i>Patriot Product Improvement</i>		<b>PROJECT</b> DV8: <i>PATRIOT PRODUCT IMPROVEMENT</i>	

	FY 2011				FY 2012				FY 2013				FY 2014				FY 2015				FY 2016				FY 2017			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
PDB 7 Fielding (Modernized Adjunct Processor) IOC																												
Radar Digital Processor Development																												
PDB 8 (RDP) IOC																												
Evolutionary Development Program																												

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2013 Army			<b>DATE:</b> February 2012
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Schedule Details

Events	Start		End	
	Quarter	Year	Quarter	Year
PDB 7 Fielding (Modernized Adjunct Processor) IOC	1	2013	1	2013
Radar Digital Processor Development	1	2012	4	2014
PDB 8 (RDP) IOC	1	2016	1	2016
Evolutionary Development Program	1	2013	4	2015